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SPECIAL STUDENTS AT MT. HAMILTON.

Professors C. W. TREAT, of Napa College, California, and J. M. TAYLOR of the State University of Washington (Seattle), have spent a portion of the vacation at Mt. Hamilton in practice of astronomical observations and computations.

APPOINTMENT OF PROFESSOR KIRKWOOD TO THE STANFORD UNIVERSITY.

Members of the Society will be glad to learn that Dr. KIRKWOOD, one of our honored members and contributors, has been appointed to deliver the lectures on astronomy at the Stanford University. Dr. KIRKWOOD is Professor Emeritus of mathematics and astronomy in the University of Indiana, and has resided for some years at Riverside, California. E. S. H.

OBSERVATIONS OF THE PLANET *URANUS* WITH THE 36-INCH EQUATORIAL, BY EDWARD S. HOLDEN, J. M.

SCHAEBERLE AND JAMES E. KEELER.

The following brief summary of observations which have been made at the Lick Observatory may be worth placing on record.

1889, Jan. 6.—E. S. H. and J. M. S. Bands on the planet were suspected by J. M. S.

During the spring of 1889 (January-April) *Uranus* was examined on every suitable occasion, usually by E. S. H. and J. E. K. The same is true of the spring of 1890, which was, however, unusually unfavorable.

1890, Feb. 1.—E. S. H. and J. E. K. Wt. 2. The planet seems to be circular in outline. Bands are suspected on the planet, perpendicular to the line joining *Uranus* and *Oberon* at $12^{\text{h}} 30^{\text{m}}$, sid. t. p . (est.) = 120° – 125° , but this is very uncertain.

The planet was examined (among other dates) on 1890, Feb. 27 (E. S. H. and J. M. S.); April 9 (E. S. H. and J. E. K.); April 13 (E. S. H. and J. M. S.). On April 13 bands were seen plainly on the disc, which were spoken of in *Publ. A. S. P.*, vol. II, p. 197, and of which sketches are given in the plates which accompany the present paper. The general direction of these bands was estimated at 105° by J. M. S. and about 90° by E. S. H. They were very faint and uncertain, however. (See the figure herewith. It must be remembered that the bands in the figure

are plain and definite markings, while the bands on the planet were always the faintest imaginable shades.)

In 1891, *Uranus* was examined as follows: April 20 (E. S. H. and J. M. S.); April 26 (E. S. H. and J. E. K.); April 27 (E. S. H. and J. M. S.); May 3 (E. S. H. and J. M. S.); May 4 (E. S. H. and J. M. S.); May 10 (E. S. H. and J. E. K.); May 24 (E. S. H., J. M. S. and J. E. K.); May 25 (E. S. H. and J. M. S.); June 4 (ditto); June 5 (ditto); June 7 (ditto); June 8 (ditto); June 9 (ditto); June 14 (ditto); June 15 (ditto); June 20 (J. M. S. and C. W. TREAT); June 22 (E. S. H. and J. M. S.).

On several occasions, bands were seen on the planet, which are shown in the accompanying drawings.

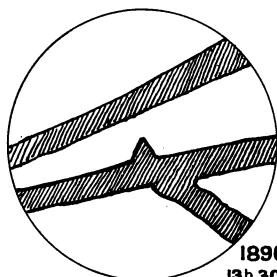
The bands were never well seen, as the circumstances were never entirely favorable. They were the merest shades on the planet's surface. On April 13, two observers (E. S. H. and J. M. S.) saw them essentially alike, except for a slight difference in the estimated position angle, and this night was the best, or one of the best, of the season. The lower marking of April 13 appears to have been seen by E. S. H. throughout. On the other hand, the later observations of J. M. S. are consistent with each other, but are, at first sight, quite inconsistent with the earlier ones, or even with the simultaneous observations of E. S. H. If, however, the drawings of the two observers are superposed, certain markings practically coincide, and thus seem to be confirmed. What is not common to the two drawings may be a pure mistake, or it may easily be that each observer saw only a part of the phenomenon. We are, on the whole, inclined to adopt the latter opinion, and, therefore, to publish these observations and figures in spite of their very unsatisfactory nature.

E. S. H., J. M. S., J. E. K.

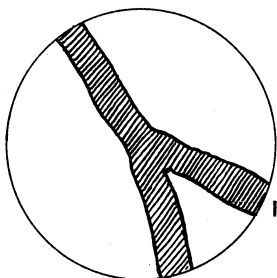
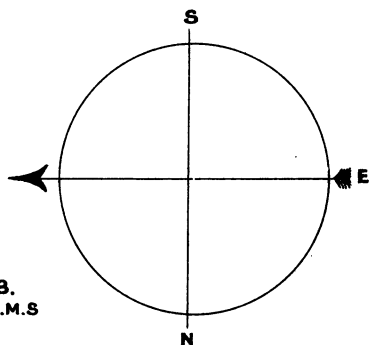
HISTORY OF SCIENTIFIC SOCIETIES.

The *Report* of the Smithsonian Institution for 1889 contains (page 89 *et seq.*) an excellent article on The National Scientific Institutions at Berlin, the first part of which gives a very complete account of the Royal Academy of Sciences founded by LEIBNITZ in 1701. *Engineering* (May 22, 1891) commenced an admirable series of articles on London Societies, the first of which are devoted to the Royal Society (founded 1664-5). Other societies will be treated later. These accounts are very welcome and interesting.

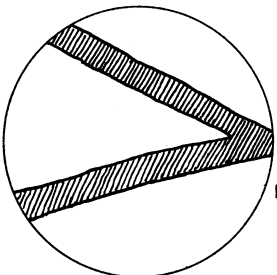
E. S. H.



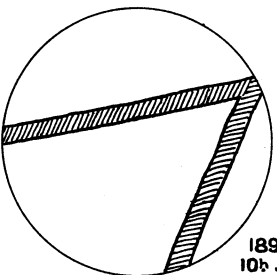
1890, APRIL 13.
13^h 30^m E.S.H., J.M.S



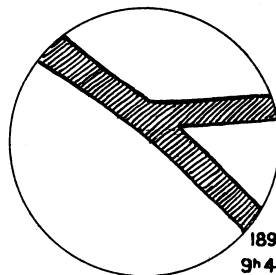
1891, APRIL 27, 10^h 20^m E.S.H



1891, APRIL 27, 10^h 11^m J.M.S.



1891, MAY 3,
10^h J.M.S



1891 MAY 3
9^h 40^m E.S.H.
JUNE 5, 8^h 30^m
JUNE 7, 8^h 10^m 5

SKETCHES OF URANUS, 1890-I.